BONOBOS AND THEIR HABITAT

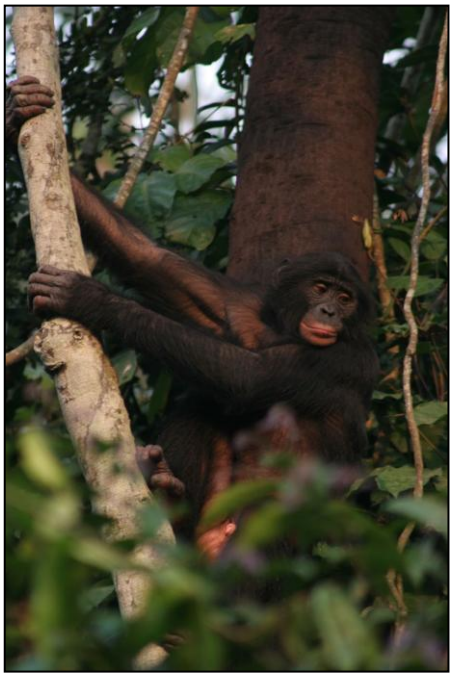
By Alice Hare

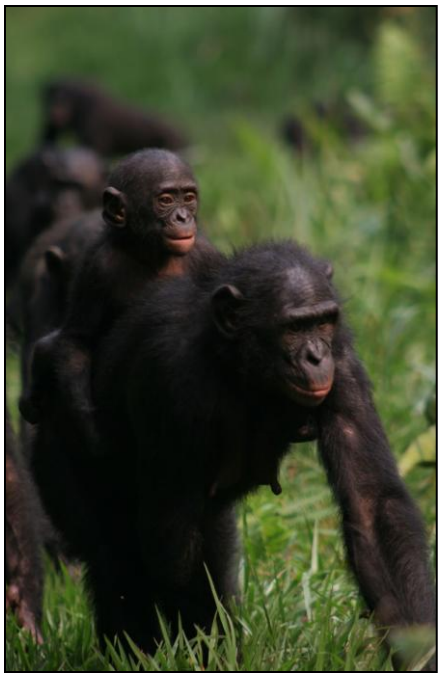
Lesson Plan for children 8 to 11 years old

friends of bonobos

The U.S. non-profit that supports Lola ya Bonobo Sanctuary in the Democratic Republic of Congo (www.friendsofbonobos.org)

Funding provided by the National Science Foundation
NSF-BCS-10-25172 to Dr. Brian Hare at Duke University





INDEX

BONOBOS AND THEIR HABITAT

LESSON PLAN- Bonobos and Their Habitat

GRADE LEVELS- 3-5 / Ages 8 to 11

LENGTH OF LESSON- 3 lesson periods- one to present the necessary background information for the lesson, one to research and to draw the rainforest and animals, and a final one to present the students' research and complete a wall display that pictures bonobos and their natural habitat

SUBJECT AREAS- Bonobos; Great Apes; Chimpanzees; Endangered Animals; Primates; Democratic Republic of Congo; Animals and Their Habitat; Rainforest; African Rainforest Animals

OBJECTIVES- Students will understand the following:

1. The bonobo is the closet living relative to man together with the chimpanzee.
2. Bonobos and chimpanzees look much alike, but they are a completely different species.
3. Bonobos are one of the most intelligent of all animals.
4. Bonobos are the rarest and the most endangered species of the great apes, and we must work to protect them.
5. Bonobos are found only in the rainforests of the Democratic Republic of the Congo.
6. The rainforest habitat of the bonobo contains a diverse group of plants and animals.
7. Threats to the survival of the bonobos include the bushmeat trade, pet trade, and loss of habitat.
8. There is a real possibility that bonobos could become extinct in our lifetime.
9. Scientists such as primatologists, botanists, entomologists, herpetologists, ornithologists, and mammalogists study the rainforest animals and plants and often participate in conservation efforts to save them.
10. The rainforest consists of layers called the Emergent, Canopy, Understory, Shrub, and the Forest Floor.
11. The Democratic Republic of the Congo is in Africa, but it is a different country from the country that borders it on the west which is called the Republic of the Congo.

MATERIALS- For this lesson, you will need:

1. Research materials about bonobos and other rainforest animals and plants. (NOTE- All needed research materials, called "resource sheets", are included as printable handouts for this lesson plan.)
2. Large piece of white paper (or even light brown packaging paper) approximately 8 to 10 feet by 3 to 4 feet; or, if you plan to use the final project for your bulletin board, the paper should be the size of that area. If you do not have this type of paper, you could use tape to attach the completed drawings to your chalk board, white board, or room wall.
3. White copy paper for tracing or drawing.
4. Crayons or colored pencils. (Markers might be used on the large paper for the forest background. Or pencils only could be used, if you want to have this project in black and white.)

5. Masking tape and/or glue.
6. Scissors
7. Index cards or small sheets of paper cut in 3 inch by 5 inch pieces.
8. Optional- Video clips from www.arkive.org/bonobo/pan-paniscus/ or segments from the one hour Nova video called "The Last Great Ape". (Due to the sexual nature of some of the content, be sure to preview these videos before you show them to the class. Large sections of these videos, however, are totally appropriate for students of this age group and are very useful in helping them to develop an understanding of the lives of the bonobos and of their habitat.)

PROCEDURE- Lesson One:

1. Ask your students if they have ever wanted to be an explorer. What would be exciting about that? Ask you students if they have ever thought about being a scientist. What kind would they be? What kind of discoveries might they make? Have a student point out on the classroom map or globe where the Democratic Republic of Congo is located. (If no classroom map is available, use the map in the handout section of this lesson plan.) (Point out that the Republic of the Congo is a different country from the Democratic Republic of Congo.) Then explain that over the next few lessons they will get their chance to be both an explorer and a scientist in the depths of the rainforest in remote areas of the Democratic Republic of Congo in Africa. It should prove quite an adventure.
2. Explain to your students that they will be exploring the rainforest habitat of the Democratic Republic of Congo to find an elusive animal who shares over 98% of the same genes (DNA) as humans. This animal was the last of the great apes to be discovered (in the 1920's), and we still know very little about it. Ask- what is an ape? (Answer- the larger, tailless primates) Ask- who can name the 4 great apes? (Answer- gorilla, orangutan, chimpanzee, and bonobo) Which one was the last to be discovered? (Answer- bonobo) Now you know that we will be exploring the Democratic Republic of Congo to find and study the great ape called the bonobo.
3. Ask- what can anyone tell me about the bonobo? How does it look? How does it move about? Etc. Show a picture of a bonobo and a picture of a chimpanzee (These pictures can be found in the materials accompanying this lesson plan.) Ask- how is the bonobo different from the chimpanzee? (After the students have told all that they know, use the teacher resource sheet included in the lesson plan called "Resource Sheet- for teacher"- "Bonobos" to give the students further information about the bonobo. Use the chart included with the bonobo teacher information sheet to list on the board or to tell some of the differences between the bonobo and the chimpanzee.)
4. Optional- Show the class the videos of bonobos in their rainforest habitat. Discuss.
(If the lesson time has run out because of the video, numbers 5 and 6 below could begin the lesson activity on day 2.)
5. Ask- what is a scientist? (Answer- A person who works to discover new, true, verifiable information about some area of knowledge) Explain that each student will now become a scientist on our expedition to the Democratic Republic of Congo and will be responsible for researching certain elements of the rainforest habitat there. On the last day of our expedition each researcher in the

class will participate in a scientific conference and will give a short presentation to the entire group about his/her research concerning an animal or plant found in the rainforest of the Democratic Republic of Congo. The student will also show a picture(s) of his/her animal(s) or plant(s) and will tape that drawing(s) in the appropriate place(s) on the rainforest background display sheet either before the presentations begin or after his/her remarks are completed, depending upon the preference of the teacher.

6. Explain that the class will now be divided into 6 groups (with 3 to 6 people in each group, depending upon class size). Each group will represent a certain type of scientist researching the bonobos and their habitat in the Democratic Republic of Congo. Prepare 6 strips of paper with one of the following types of scientists written on each slip- primatologist, botanist, entomologist, herpetologist, ornithologist, and mammalogist. After the groups are seated together, have one student draw one of the paper strips to see which type of scientist his/her group will represent on this research expedition to the African rainforest. Explain that, although bonobos are mammals, they will be studied on this trip by their own group of scientists called primatologists. Ask each group to tell the class what kind of scientist they drew and what type of thing that group of scientists study. If they are unsure, have them look up the information, have others in the class tell them the answer, or have the teacher help them. (Answer- Primatologists study primates, in this case the bonobos. Botanists study plants. Entomologists study insects. Herpetologists study reptiles and amphibians. Ornithologists study birds. Mammalogists study mammals.) If any group needs further help understanding their type of scientist, they should research that before beginning the next part of their research.

PROCEDURE- Lesson Two:

1. Have the students move into their research groups based upon which type of scientist their group found on the slip that they drew. Hand out an index card to each student and a resource sheet with one type of animal or plant that their type of scientist would study. (These resource sheets can be found in the handouts for this lesson plan. Some of these sheets were written for advanced, on level, and below level readers. Generally, the shorter resource sheets are the easiest. Also- students in the primatologist group should be given the teacher resource sheet on bonobos, as well as the student bonobo resource sheet. Students in this primate group should also be sure that their five or more facts on their index cards are different from the facts on the cards of the others in their group.) Now ask each student to read the research information on his/her resource sheet. Then he/she should take the index card (or paper) and write the name of the animal or plant on the top line. He/she then should write on the card five or more important facts about that animal or plant. (Students should not write on the back of the index card. If the information will not fit on the front of one card, he/she should use a second or even a third card to finish. These cards will be taped to the large piece of display paper after the presentations on the last day.) When the index card(s) is finished, the student should trace or draw in pencil on the white copy paper one to five pictures of that animal or plant that he/she has researched and LIGHTLY color it the correct colors for that plant or animal. (The primatologists should draw male, female, juvenile, and baby bonobos.) Be sure that the pencil details of the picture can still be seen, or go over the details of the drawing in a

darker shade of the color. The student should try to draw the animal or plant in the appropriate size for placing it in the forest background that is painted on the large display sheet (see number 2 below for more details about this sheet). The students should then use scissors to cut around the completed pictures of their plants or animals, so that these drawings are ready to be taped or glued to the display sheet at the appropriate time. If any group finishes early, they should share their research findings about their plant or animal with their own group of scientists. (If there are extra animal or plant resource sheets because of smaller group sizes or student absences, the student who finishes early could research and draw a second plant or animal.) If you want to save time on the last day of the lesson, the students' drawings could be taped or glued to the display paper at the end of this lesson and just pointed to by the students during their final presentations during lesson three. In this case you will have to paint the forest background on the display paper before you begin lesson two. Whenever you decide to have the class attach their drawings to the display paper, be sure that you show them the different layers of the rainforest- the Emergent, Canopy, Understory, Shrub, and the Forest Floor (information about these layers is provided in the resource materials for these lessons). After the students' presentations are over and the project is on display in the classroom, you might want to attach small signs to the display paper, naming and pointing to these rainforest layers.

2. NOTE- Preparing the forest background display sheet- The painting of the forest scene across the entire large display sheet must be completed before the beginning of lesson three. This background should look like the picture of the trees in the lesson resource materials labeled "Rainforest Layers- Emergent, Canopy, Understory, Shrub, and Forest Floor". If you wish to add a stream to some part of the foreground of the picture, that would be fine, too. The branches of the trees should be painted green with the trunks of the trees brown. The sky should be quickly and lightly painted blue and the foreground quickly painted green. The trees should fill up the middle half of the paper, the sky the upper fourth, and the ground section the lower fourth of the sheet. The teacher can prepare this forest background himself/herself or have students who finish their work early on previous days fill in the color from a pencil sketch that the teacher or someone in the class has drawn earlier on the large display sheet.

PROCEDURE- Lesson Three:

1. If possible, arrange the classroom to look like a conference for scientists will take place there. The large display sheet with the rainforest background already painted on it should be hanging in front of the class. You might want to be the conference moderator yourself who calls each presenter to the front to speak, or you might appoint a student to do this. Each group of scientists should sit together in the audience until their time to present. Starting with the primatologists, each individual in that group of scientists should present his/her research and drawing before moving on to the next group. You might want to give the students small sheets of paper where they could write their questions that they have for any presenter. After all the presentations are completed, you could collect these and try to see that these questions are answered. If the answers to some questions

are still not known, the student could research that question at a later time and report back to the class during the next appropriate class period.

2. The moderator might begin the conference by briefly explaining that the purpose of the conference is to report to the group the research findings from the recent expedition taken by this group of scientists to the area where bonbos live in the Democratic Republic of the Congo. Very little is known at the present time about these animals that are genetically more than 98% like humans. Because bonobos are highly endangered, it is essential that we learn all we can about them and try to save the species from extinction. It is exciting that so much knowledge was gained during this recent expedition about the animals themselves and also about the rainforest habitat in which they live. To begin the discussion the primatologists will present one at the time their research findings. When each scientist begins his/her presentation he/she should introduce himself/herself as Doctor (first name, last name) and tell the type of scientist that he/she is (example- "I am Doctor Sue Major. I am a primatologist"). The student should then give the name of the plant or animal that he/she researched, show the picture of it that he/she drew, and present the interesting facts from his/her index card(s) (example- "I did my research on the such and such. Here is a picture of such and such. Some of my more interesting findings about the such and such are……"). The primatologists' presentations are followed by those of the botanists, mammalogists, entomologists, herpetologists, and the ornithologists. Following these presentations, the moderator should say that he/she knows that all the scientists at the conference are concerned about the future survival of the bonobos and of the other plants and animals of their habitat. The moderator should remind the group that the bonobos are the rarest and most endangered of all the great apes. He/she should call attention to the threat of extinction that the bonobos and the other plants and animals of this rainforest habitat are facing, perhaps even in our own lifetime. The entire population of between 5,000 to 50,000 bonobos is in a single country that has in the recent past been torn apart by a 10 year war. People fled to the forests and began to eat bonobos, as well as some of the other animals that live there. Although peace has recently returned to the Democratic Republic of the Congo, the bushmeat trade, which includes the selling of the meat of bonobos, still exists. This is a major threat to the survival of the bonobos. Another threat is habitat loss, as the rainforest is being cut down for living space by the native population and by logging companies from foreign countries that export these trees to use for building materials in their own countries. Also, many bonobo infants are being taken from the wild and are being sold around the world as pets. This, too, must be stopped. These animals are too intelligent and too dangerously strong once they grow up. The pet owners find that they are no longer able to keep them. The lives of these adult bonobos that are no longer wanted by their owners are most often a very sad story indeed. Many live in very small cages for the rest of their lives and are poorly treated. A number of concerned groups of people around the world are working to save the bonobos in the wild and their habitat , as well as those which have been pets. If you would like to help in this effort, one place you could go to find information would be at www.friendsofbonobos.org. Any help you could give would be so appreciated. These greatly endangered animals need our help now, not later. Following this discussion, the moderator should end the conference by asking for the questions to be passed in that were written down by the students during the presentations. These questions should be read out loud and answered by any member of the audience or by the teacher. Then, after the

moderator has thanked the group for their important contributions to our understanding of the lifestyle of the bonobo and of its habitat, the conference should be adjourned. (Note- If the pictures of the various plants and animals were not taped or glued to the large display sheet at the end of the second lesson, they need to be taped in an appropriate place on this sheet before or after each presentation today.)

DISCUSSION QUESTIONS/EVALUATION-

These questions may be used with the class for discussion purposes only or for a formal written evaluation of each student. The index card(s), oral report, and drawing(s) by each student should also contribute to his/her final grade on this lesson material.

Questions-

1. How are chimpanzees and bonobos different?
2. (List 5, or) What are some interesting facts about bonobos?
3. (List 2 for each type of scientist, or) Name some of the other plants and animals that share the same habitat as the bonobo, and tell which type of scientist would study this type of animal or plant.
   Mammalogist-
   Botanist-
   Entomologist-
   Herpetologist-
   Ornithologist-
4. (List 3, or) Name the layers of the rainforest itself.
5. Why is the bonobo endangered?
6. What can we do to protect the bonobo and its habitat?
7. Where in Africa is the Democratic Republic of the Congo located?
8. What is the name of the country that touches the western border of the Democratic Republic of the Congo?

NOTE- Student index cards should now be taped or glued to the display paper next to one of the pictures about which they tell, so that others looking at the final display will be able to identify the various elements of the bonobo habitat. You will also need a title above the entire display sheet, such as “Bonobos and Their Habitat”. This project would be good to use on your class or hall bulletin board.

EXTENSION –

1. Have the students write a story or create a children’s book about bonobos.
   Example– A baby bonobo is taken away from his/her mother by poachers in the rainforest. He/she is then rescued by someone before the little animal leaves the country to be sold as a pet.

The little orphan is taken to a bonobo sanctuary, where he/she is loved and taken care of by humans until he/she is big enough to be released back into the wild. Perhaps there is an episode in the story showing that when he/she first arrives at the sanctuary, a slightly older bonobo tries to bully the little orphan. But his/her new bonobo friends at the sanctuary come to his/her aid and help him/her. This makes him/her realize that he/she has found a wonderful new home.

2. Critical thinking activity- What are some of the ways that people around the world could work together to save the endangered bonobos? Who in our government or in other agencies around the world should be contacted to hear our concerns and our ideas to improve the survival chances of the bonobos? What non-profit groups are already hard at work to save the bonobo? How can we help these groups today?

RESOURCES-

SUGGESTED READINGS-

Examples of children's books about the bonobo-

I'm Lucy- A Day in the Life of a Young Bonobo by Mathea Levine

Bobby the Bold by Donna Jo Napoli and Eva Furrow

For adults-

Bonobo- The Forgotten Ape by Frans De Waal and Frans Lanting

VIDEOS-

NOVA video- "The Last Great Ape"

www.arkive.org/bonobo/pan-paniscus/

WEB SITES-

www.friendsofbonobos.org

www.3chimpsduke.com

www.bonobokids.org

www.1000classrooms.org

www.unep.org/grasp

www.bonobo.org

RESOURCE SHEET- for teacher

BONOBOS

The bonobo is genetically the closest animal to man together with the chimpanzee. They share over 98% of their DNA with humans. Although they look somewhat alike, the bonobo and the chimpanzee are two separate species. Bonobos have black fur, black face, pink lips, small ears, wide nose, and hair on their heads that seems to be parted in the middle. They have a more slender body shape, but they are about the same size as the chimpanzee. (See chart of differences on the next page.) The male bonobo is about 2.5 to 2.75 feet tall (73 – 83 cm), and the female's height is about 2.25 to 2.50 feet (70 – 76 cm). Males weigh around 86 pounds (40 kg) and females about 68 pounds (31kg).

Bonobos live only in the Democratic Republic of Congo in central Africa in an area between the Congo River in the north, the Sankuru-Kasai River in the south and west, and Lualaba River in the east. Chimpanzees do not live in this same area. We do not yet know the true size of the bonobo population.

Bonobos live in a habitat called lowland rainforest. The year round air temperature is about 68 – 86 degrees F (20 – 30 degrees C). The yearly rainfall there is about 5.25 – 6.50 feet (1600 – 2000 mm).

Bonobos live in stable communities of up to 150 individuals, but the group splits up during the day to travel and to find food. Their activities each day include feeding in the trees, travel, rest, searching for food, nest building, grooming, and group interaction. They eat mainly fruit, seeds, stems, sprouts, flowers, and leaves. There is a more equal relationship between male and female bonobos than one finds among chimpanzees. Male chimpanzees totally dominate the females in their group. In bonobo communities, however, females band together when a male threat arises. Joined together as a group, the females are powerful enough to keep any male from being too aggressive towards them. Bonobos also use sexual interactions to defuse tension in their groups. As a result, the bonobos appear to live in a more matriarchal society and in more peaceful groups than do the chimpanzees. Also, some experts have suggested that the year round abundance of food in the bonobos' habitat leads to less competition and more sociability and in turn to less aggressive behavior in their groups. A male stays in his mother's group his entire life, and her status in the group conveys status to him. Females at maturity move to another group. The lifespan of bonobos in the wild is unknown at this time.

Bonobos are protected by law as an endangered species. But they continue to be threatened by loss of habitat, as the rainforest is being increasingly cleared by farmers, by logging, and by other human development. Another threat is the bushmeat trade, when bonobos are killed for meat to eat. Disease is also another threat to their continued success as a species. Conservation groups are working in the Democratic Republic of the Congo to educate the people living there and around the world about the importance of saving the bonobo population. There is one area of the Congo, Salonga National Park, where the bonobos are legally protected. Unfortunately the park is quite large, and the enforcement of this law is very difficult with only a small number of park rangers. The bonobos are still being hunted illegally even there. The hope is that as more people in the Democratic Republic of Congo and around

the world become more knowledgeable about these incredibly intelligent animals, more effective ways will be found to save this endangered species.

COMPARISON OF BONOBOS AND CHIMPANZEES

Species	**Bonobos** **(*Pan paniscus*)**	**Chimpanzees** **(*Pan troglodytes*)**
Morphology	slender build, bright pink lips, black face, smaller and juvenilized brain case in males	robust build, face color changes with age, dark lips
Natural Distribution	Only endemic to Democratic Republic of Congo in Congo Basin south of the Congo River (no subspecies)	3 subspecies distributed Across East, Central and West Africa in over a dozen countries. Only found North of Congo River in Democratic Republic of Congo
Sexual Dimorphism	less sexual dimorphism	more sexual dimorphism
Social Organization	fission-fusion societies typically larger daily party size than chimpanzees live in 'communities' of multiple males and females and their offspring mother-son and female-female bonds very important	fission-fusion societies live in 'communities' of multiple males and females and their offspring different group composition male-male bonds very important while female-female bonds typically weak.
Vocalization	higher pitched	

	peeps and peep yelps males drum on tree buttresses	lower pitched hoot, scream, grunt males drum on tree buttresses
Dominance Hierarchy	females form strong bonds with weak hierarchy and in coalitions can dominate males. Male(s) is never alpha / highest ranking individual.	linear set of relationships among all males which includes a clear alpha-male (or coalition of males).
Group Hunting	extremely rare if ever	frequent in times of abundant fruit, when multiple chimpanzee males and Red Colobus monkeys plentiful
Territoriality	no evidence of lethal aggression in defending home ranges. mating across community lines occasionally observed	specific territories aggressive patrolling of boundaries can result in lethal aggression (killing of neighbors). avoidance of neighbors
Tool Use	only frequently seen in captivity	Cultural variation exists that is transmitted through social learning. compared to other animals relatively complex nut cracking, ant fishing, leaf clipping & medicinal plant use observed.
Sexual Behavior	frequent non-reproductive sexual behavior observed at all ages and	Very little sexual behavior observed in adults outside of reproductive contexts.

	between all partner types. believed to reduce tension and encourage tolerance sexual excitement often observed during feeding. frequent homosexual interactions especially in females used as a greeting and conflict resolution	high ranking males monopolize and guard females in estrus
Threats	hunting, snares, habitat destruction, infectious diseases	hunting, snares, habitat destruction, infectious diseases

15 Bonobos and their habitat by Alice Hare

MAP OF AFRICA (as of 2010)

Map of Democratic Republic of Congo, the Congo Basin and Bonobo Habitat Range (as of 2011)

LAYERS OF A RAINFOREST

EMERGENT LAYER

The tallest trees are the emergents, towering as much as 200 feet above the forest floor with trunks that measure up to 16 feet around. Most of these trees are broad-leaved, hardwood evergreens. Sunlight is plentiful up here. Animals found are eagles, monkeys, bats and butterflies.

CANOPY LAYER

This is the primary layer of the forest and forms a roof over the two remaining layers. Most canopy trees have smooth, oval leaves that come to a point. It's a maze of leaves and branches. Many animals live in this area since food is abundant. Those animals include: snakes, toucans and treefrogs.

UNDERSTORY LAYER

Little sunshine reaches this area so the plants have to grow larger leaves to reach the sunlight. The plants in this area seldom grow to 12 feet. Many animals live here including jaguars, red-eyed tree frogs and leopards. There is a large concentration of insects here.

FOREST FLOOR

It's very dark down here. Almost no plants grow in this area, as a result. Since hardly any sun reaches the forest floor things begin to decay quickly. A leaf that might take one year to decompose in a regular climate will disappear in 6 weeks. Giant anteaters live in this layer.

RESOURCE SHEET- For student primatologists (Need up to 5 copies of this sheet.)

BONOBOS (Scientific name – *Pan paniscus*)

Bonobos are great apes, along with chimpanzees, gorillas, and orangutans.

Bonobos are the closest that you can get to being human without being human. Bonobos and people share more than 98% of the same genetic make-up (DNA).

Bonobos are one of the most intelligent of all animals.

Bonobos have black fur, a black face, brown eyes, pink lips, small ears, a wide nose, and hair on their head that seems to be parted in the middle.

A male bonobo is about 2.5 to 2.75 feet tall (73-83 cm), and the female's height is about 2.25 to 2.50 feet (70-76 cm). Males weigh around 86 pounds (40 kg) and females about 68 pounds (31 kg).

Bonobos spend a lot of time high in the trees of the rainforest. They also travel on the ground in search of food.

They eat many foods, including fruit, nuts, seeds, and mushrooms. When they feed on plants, it might be leaves, flowers, bark, stems, or roots. Sometimes they eat small mammals, insect larvae, honey, or eggs.

When bonobos go to the trees to make their night nests of leaves and small branches, they fill the night air with lots of high-pitched squeaks and squeals. This is the language of bonobos that people do not understand yet.

Compared to their close relatives the chimpanzees, the bonobo community is peaceful.

Females rank highest in bonobo communities, while males rule in chimpanzee groups.

Female bonobos form close bonds and friendships, and adults are very affectionate with each other and with their babies and youngsters.

We do not yet know how long bonobos live in the wild.

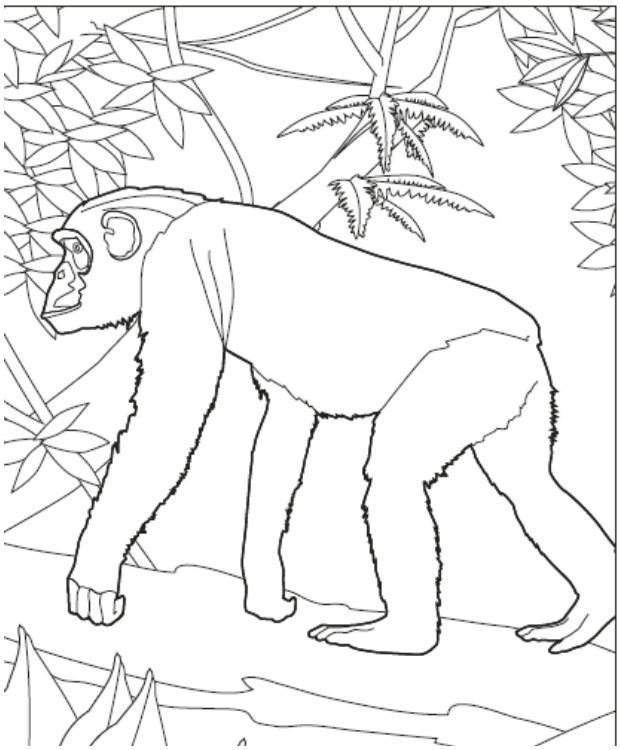
Bonobos are an endangered species. There is a real threat that they could become extinct in our lifetime. This is because bonobos are taken out of the rainforest illegally to be sold to the pet trade. They are losing their habitat due to logging and to human settlement. Hunters are killing them illegally to sell their meat.

Bonobos are found only in one country in the world- the Democratic Republic of the Congo.

20 Bonobos and their habitat by Alice Hare

Conservation groups in different parts of the world are working with the Democratic Republic of the Congo to educate the people living there and in other countries about the importance of saving the bonobo population.

http://www.arkive.org/bonobo/pan-paniscus/image-G6534.html



RESOURCE SHEET- For student mammalogist (Need one copy of this sheet)

COLOBUS MONKEY (Scientific name - Colobus guereza)

The beautiful black and white color of this animal's fur helps it to blend in and hide among the sun and leaves of the trees in the forest.

Because the colobus monkeys spend almost all of their lives in the tree tops, they have special light weight bones and very long arms and legs that make it easy for them to leap from branch to branch. When dropping down, the long shoulder hair of this monkey fans out and acts like a parachute.

The colobus monkey feeds on leaves, flowers, buds, and fruits.

The mother monkey carries her baby inside her body for about 5 to 7 months. When it is time for the baby to be born, she leaves the group with the male. She comes back a few days later holding her baby close. Sometimes the members of the group help her by carrying the baby.

The newborn colobus monkey baby is covered in white fur. After about one month, it will begin to grow black and white fur like the adults.

Like many other kinds of monkeys, colobus monkeys live in groups called "troops".

http://www.arkive.org/guereza/colobus-guereza/image-G34288.html

22 Bonobos and their habitat by Alice Hare

RESOURCE SHEET- For student mammalogist (Need one copy of this sheet.)

LORD DERBY'S SCALY-TAILED SQUIRREL (Scientific name - *Anomalurus derbianus*)

Lord Derby's scaly-tailed squirrel lives in the same rainforests of central Africa that the bonobos inhabit.

This animal is squirrel-like in form and has a head-body length of 27 to 37.9 cm (or 10.6 to 15 inches). Their tail is about 22 to 28.4 cm (or 8.7 to 11 inches) in length. Although these animals resemble squirrels in external appearance, parts of their interior body indicate no close relationship to squirrels. There is much debate about how to classify them. The upper side of this animal's tail is bushy with a tuft of hair at the end. The fur is silvery-grey on the back and completely white on the belly. They have long whiskers, big ears, large eyes, and strong claws.. They have two rows of overlapping scales on the underside of the tail near the base, which is how they get their name "scaly-tailed squirrel"

They have a hairy gliding membrane that extends between the front and back legs. The membrane is heavily covered with hair on the top, but it has only a little hair on the underside. Females have two litters of 1-3 young per year. At birth the babies are covered with fur, have their eyes open, and begin moving around very soon after they arrive. The young stay hidden in the nest until they are grown. The babies at first drink their mother's milk. Later, the parents feed them by chewing up the food in their mouths really well and then spitting it out into the babies' mouths.

These animals sleep during the day in nests made in the holes of trees. Soon after sunset they leave these homes and glide from a higher level in one tree to a lower level in another. When they land, they jab their tail scales into the bark of the tree to help them stop. These scales are also used to help them climb the tree. They do not want to come to the ground. Their gliding membrane makes it difficult for them to move on the land. If they accidentally find themselves on the ground, they quickly run to the trees by hopping clumsily like a kangaroo. Lord Derby's scaly-tailed squirrels mainly eat a variety of plant products such as bark, fruit, leaves, flowers, and green nuts. Every now and then insects are included in their diet.

As the rainforest is being cut down, these animals are becoming increasingly endangered. They are not legally protected at this time, so anything we and others can do to decrease rainforest habitat destruction in central Africa will help to protect Lord Derby's scaly-tailed squirrels, too.

It is estimated that these animals live for several years in the wild.

http://en.wikipedia.org/wiki/Anomalurus_derbianus

23 Bonobos and their habitat by Alice Hare

RESOURCE SHEET- For student mammalogist (Need one copy of this sheet.)

BAY DUIKER (Scientific name – *Cephalophus dorsalis*)

The duiker lives in the same rainforests of central Africa in which the bonobos live. Bonobos have occasionally been seen hunting and eating duikers. Duikers are small, shy antelopes that try to avoid humans and other predators.

They dive for cover when disturbed, and that is how they got their name.

These duikers have red or yellowish-brown hair on their bodies. A dark line runs along their back from the nose to the base of the tail. The center of their belly may also have a dark stripe. They have short horns shaped like cones. Underneath each eye is a large scent gland which it is believed that they use to mark their territory.

They take shelter in dense thickets, in hollow trees, and under fallen trunks of trees. These duikers come out at night. This makes them difficult to study.

They eat primarily fruit, such as African fruitbread and wild mango. They will eat leaves and will occasionally kill and eat birds. These animals likely play a major role in dispersing seeds around the rainforest. This helps to insure that many different kinds of plants continue to grow there.

Duikers live mostly alone. They are sometimes seen in pairs and are thought to have one mate for life.

The female gives birth each year to only one calf, which spends only a little time with its mother. After it is born, it stays very quiet and hides in the dense undergrowth. When it is about five months old, it no longer drinks its mother's milk. It begins to eat fruits and leaves.

Bay duikers live about 10 to 12 years.

Human hunters kill many duikers each year, and this has resulted in declining numbers of them in many parts of Africa where they once lived. Destruction of their habitat by humans is also a threat to this species.

To protect the bay duiker we need to do research into the factors making them such a popular target of hunters. We need to educate the local people and those worldwide about the threats facing these animals and of their importance to the survival of this rainforest ecosystem.

http://www.arkive.org/bay-duiker/cephalophus-dorsalis/image-G26696.html

24 Bonobos and their habitat by Alice Hare

RESOURCE SHEET- For student mammalogist (Need one copy of this sheet)

FOREST ELEPHANT (Scientific name - *Loxodonta cyclotis*)

There are two kinds of elephants in Africa, forest elephants and savannah (grassland) elephants. They can live for 60 years in the wild and up to 80 years in captivity (like zoos).

Forest elephants live in dense jungles in Central and West Africa.

Because of their habitat, forest elephants are smaller in size and live in much smaller groups than their larger cousins the savannah elephants. Male forest elephants usually live alone, and the mothers stay with one or two of their calves.

Elephants eat bark, fruit, grass, and leaves. They can drink up to 50 gallons of water each day.

Forest elephants sometimes come together in large groups in big, swampy clearings in the forest known as “bais” (pronounced “buys”). Here they dig in the soil with their trunks and tusks to get at mineral salts that they need to stay healthy.

Elephants have their own “language” for keeping in touch with each other. They use calls that are too low for people to hear.

Because people want their ivory tusks, elephants have been hunted to the brink of extinction. All elephants are on the endangered species list.

http://www.arkive.org/forest-elephant/loxodonta-cyclotis/image-G4457.html

25 Bonobos and their habitat by Alice Hare

RESOURCE SHEET- For student mammalogist (Need one copy of this sheet)

LEOPARD (Scientific name - Panthera pardus)

The leopard is a member of the cat family. It lives in Africa, the Middle East, and in other parts of Asia.

Leopards have golden coats and are covered with black spots called “rosettes”.

They are excellent hunters and usually hunt at night.

In the forests of central Africa leopards hunt for small antelope called duikers, small monkeys, and rodents like rats, squirrels, and porcupines. In the open grasslands they hunt for young wildebeest, gazelle, impala, and even reptiles and insects. What they eat depends on where they live.

Leopards are very strong, but sometimes even stronger predators like lions try to steal their food. So leopards use their strength to carry their prey up into a tree and can even carry something that weighs three times as much as they do.

A mother leopard usually gives birth to 2 or 3 cubs. She keeps them safe by hiding them in a cave or a hollow tree.

The cubs are born with dark, wooly fur. They already have their spots. When they are about one and a half to two years old, they are ready to leave their mother.

http://www.arkive.org/leopard/panthera-pardus/

RESOURCE SHEET- For student mammalogist (Need one copy of this sheet)

OKAPI (scientific name – *Okapia johnstoni*)

The name "okapi" comes from the Wambutti tribe word- o'api.

The beautiful okapis are very unusual animals. They have stripes like zebras, and they look a little bit like horses. It took scientists awhile to discover that the okapi is really a relative of the giraffe- the only relative of the giraffe.

Like the giraffe, an okapi has a VERY long tongue that can grasp like a finger. They use it to reach out and pluck leaves or fruits from forest trees. They can even clean their ears with their long tongues.

Okapis live in thick forests. Their dark brown velvety coat and their striped legs help them to blend in perfectly with their habitat. The rear of their body has white stripes also.

When the mother okapi is about to give birth, she moves deep into the forest. The mother is very protective of her baby.

Sometimes leopards kill and eat okapis, but usually okapis can escape quickly, if they sense that danger in near.

Okapis live only in one country in the world, the Democratic Republic of the Congo. Their numbers are going down because of too much hunting and cutting of the forest by people.

http://www.arkive.org/okapi/okapia-johnstoni/

RESOURCE SHEET- For student ornithologist (Need one copy of this sheet)

CONGO SERPENT-EAGLE (Scientific name - *Dryotriochris spetabilis*)

The Congo Serpent-Eagle is found in tropical regions of West and Central Africa, including the area of the Congo where the Bonobos live.

This bird is a relatively small bird of prey with a length of 54 to 60 cm (or 21.3 to 23.6 inches).

This species has a pale brown face with a dark stripe running from the base of the short, hooked, black bill and across the cheeks. Another small, dark line runs down the center of its throat. Its upper section is mainly dark brown, with a blackish crown and a brownish-red collar. The underside of this bird is white with spots and bars throughout which form an irregular pattern.

The strange call of the Congo Serpent-Eagle sounds like the “meow” of a cat.

This bird hunts for prey such as snakes, amphibians, and chameleons. Its large eyes watch for signs of movement. Once the prey is detected, the bird flies down, snatches the prey, and kills it with its sharp bill or with repeated blows from its clawed feet.

We know little about how this species reproduces. It seems to breed from June to November in the Democratic Republic of the Congo.

This species does not look like any other species of serpent-eagle. Instead it looks more like Cassin’s hawk eagle. It is thought that this is an example where one species mimics another in order to deceive its own prey or to protect itself from other birds that threaten it.

The main danger to the Congo Serpent-Eagle is the cutting down of many forests in its range. Its population appears to be declining; but because it lives over large areas, it is not believed to be seriously threatened at the present time.

http://www.arkive.org/congo-serpent-eagle/dryotriorchis-spectabilis/

28 Bonobos and their habitat by Alice Hare

RESOURCE SHEET- For student ornithologist (Need one copy of this sheet)

COMMON WAXBILL (Scientific name – *Estrilda astrild*)

The Common Waxbill is a bird that is found in many parts of the world, including the Democratic Republic of the Congo where the bonobos live.

This waxbill is a small bird 11 to 13 cm (or 4.3 to 5 inches) in length. It has a wingspan of 12 to 14 cm (or 4.7 to 5.5 inches). It weighs 7 to 10 grams (or .25 to .35 ounces).

This bird has a slender body, short rounded wings, and a long tail. The bright red bill of the adult is the color of sealing wax, which is how the bird got its name. The feathers are mostly grey-brown with some small bars of dark brown. The bright red stripe through the eyes and the reddish stripes along the center of the belly help to identify the bird. The cheeks and throat are a white color and the belly is slightly pink. The bottom end is brown and the tail is dark. The females look like the males except paler.

The Common Waxbill has a high-pitched flight call. It also uses a variety of twittering and buzzing calls. It has a simple song that is harsh and nasal and descends on the last note.

This species lives in open country with long grass and other types of vegetation. They can also be found near water in marshes and among reeds.

The nest of the Common Waxbill is a large ball of criss-crossed grass stems with a long downward-pointing entrance tube on one side. It is built in a hole, usually low down among the dense plant material. There is often an area on top that is a bit like a second nest where the male sleeps.

The female lays four to seven eggs in the nest which hatch in about 11 to 13 days. Both parents take part in incubating the eggs and feeding the chicks. The young leave the nest 17 to 21 days after hatching.

These birds eat mostly grass seeds, but they will also eat insects on occasion. The waxbills usually feed in flocks which may contain hundreds of even thousands of birds. They need to drink regularly, because the seeds do not contain much water.

The Common Waxbill is not in danger of extinction.

http://en.wikipedia.org/wiki/Common_Waxbill

RESOURCE SHEET- For student ornithologist (Need one copy of this sheet)

COMMON MOORHEN (Scientific name – *Gallinula chloropus*)

The Common Moorhen is a water bird that is widely distributed around the world. In Africa this species is only found in the area of South Africa, Madagascar, Algeria, and a large section of the Congo, including the area where the bonobos live.

This moorhen has an average length of 34 cm (or 13.39 inches) and weighs an average of 300g (or 10.56 ounces). Its wingspan averages 52.50 cm (or 20.67 inches).This bird is dark gray to almost black in color, with a duller chin and throat. It has white on the edges of the wings and bottom end. The legs are bright yellow-green. Its bill is yellow with an area on the front part of the head that is bright red. This species lives around lakes, ponds, rivers, or streams. They feed while floating in the water or walking on the plants. It eats the most abundant foods available. This bird will eat fish, eggs, amphibians, insects, leaves, seeds, grains, fruit, flowers or algae among other things.

Breeding of these birds occurs at any time in tropical regions like the Congo. Typically the female lays 5 to 9 eggs. While the female is sitting on the nest to keep the eggs warm, the male feeds her. Males also help to keep the eggs warm. The young chicks are cared for and fed by both parents.

The longest time a Common Moorhen is known to have lived in the wild is 11 years, but it is felt that not many of the species lives that long. The male and female of this species defend their territory from being used by other moorhens. Most other animals that threaten the species attack the young moorhens. Some of these predators that they must watch out for are pythons, large frogs, and large fish.

If the Common Moorhen inhabits an area near farms, they can be a pest to crops. They like to eat the grain that the farmers raise, and if they are feeding in large groups, this is a real problem for the farmer. These birds are not on the endangered list in the Democratic Republic of the Congo; although, in other parts of the world, their habitat is being destroyed by man, and their population is declining.

http://www.arkive.org/common-moorhen/gallinula-chloropus/image-G90027.html

30 Bonobos and their habitat by Alice Hare

RESOURCE SHEET- For student ornithologist (Need one copy of this sheet)

AFRICAN GREY PARROT (Scientific name - *Psittacus erithacus*)

In Congo sharp whistles and loud squawks mean that a flock of grey parrots is flying overhead.

There are not many parrot species living in Africa. The grey parrot is the largest of all, and they are a little taller than this page of your resource sheet.

They live in tropical forests and mangroves.

Grey parrots like to live with lots of others of their kind in large flocks.

These birds like to fly high and fast.

African grey parrots can live a long time- over 50 years.

When it is time to eat, the grey parrot looks for fruits, berries, buds, blossoms, and seeds.

When it is time to mate these parrots look for a hole high in a tree in which to lay their eggs and raise their family. These parrots stay with their mates for all of their lives.

The three or four baby grey parrots, called “nestlings”, will stay in the nest hole in the tree for almost three months.

http://www.arkive.org/african-grey-parrot/psittacus-erithacus/

31 Bonobos and their habitat by Alice Hare

RESOURCE SHEET- For student ornithologist (Need one copy of this sheet)

CROWNED HAWK-EAGLE (Scientific name - *Stephanoaetus coronatus*)

The Crowned Hawk-Eagle lives in various wooded sections of Africa, including the Congo where the bonobos live.

This eagle is one of the largest and most powerful eagles in Africa. Its length is 80 - 90 cm (or 31.5 to 35.4 inches). Its wingspan is up to 180 cm (or 71 feet). The male weighs from 2.7 to 4.1 kg (or 6 to 9 pounds). The female weighs from 3.1 to 4.7 kg (or 6.8 to 10.3 pounds).

This species is a colorful bird with the head, back, and wings being a black or dark brown. The breast is a cream or reddish color, with distinctive black areas. There is a long crest of feathers on the head which can be raised. That is what gives this bird its name. The tail is long and marked with three black bands. The feet are large, yellow, and powerful with sharp talons (claws). The legs have feathery "boots" down to the ankles. The beak is a yellow or orange color and very strong. The eyes are a striking yellow.

The Crowned Hawk-Eagle is a very vocal bird. The males have a loud call that sounds like "keeoowee-keeoowee-keeoowee". The females use a "khoi-khoi-khoi" call.

This hawk can kill prey up to several times its own weight. Primates (monkeys, for example) make up most of its diet, although it will kill and eat many other animals.

Nests are usually built in the main fork of a large tree. It is quite big and can be up to two and a half meters (or 8.2 feet) across and three meters (or 9.8 feet) deep. It is built with sticks and lined with bunches of green leaves. The male and female may use this nest for many years.

The female lays one or two eggs which hatch after 48 to 51 days. When two eggs hatch, the older chick always kills the younger one. The young bird is dependent on the parents for about a year.

The Crowned Hawk-Eagle inhabits a wide range and is not considered to be at any risk of extinction. Its numbers are falling, however, because the forests are being cut down for lumber and farms, and hunters have wiped out much of its prey in certain areas. Also, because this bird can take people's small farm animals, it is being shot or trapped or its nests are being destroyed in some places.

http://www.arkive.org/crowned-hawk-eagle/stephanoaetus-coronatus/image-G37363.html

32 Bonobos and their habitat by Alice Hare

RESOURCE SHEET- For student ornithologist (Need one copy of this sheet)

CONGO PEAFOWL (Scientific name – Afropavo congensis)

The Congo peafowl is rarely seen and little is known about this beautiful bird.

The peafowl is called “mbulu” by the people of Congo.

The male is a large bird about 70 centimeters (or 28 inches) long with deep blue feathers which have a metallic green and violet tinge. It has a bare red neck, grey feet, and black tail. Its head is topped with a bunch of white hair-like feathers. It can fan its tail like male peacocks. The female is a chestnut brown color with a black stomach and a metallic green back. She has short, chestnut brown feathers on top of her head.

The Congo peafowl is only found in lowland forests in the heart of the Congo Basin, and almost no outsiders have ever seen them.

Congo peafowl live in small groups with one male and several females. The males are called “cocks”, and the females are called “hens”.

To attract a female, the Congo peacock makes a sound like “rro-ho-ho-o-a” followed by a “gowe-gowah”. They call early in the morning.

They like to eat different kinds of seeds, fruits, and insects.

Scientists think that the Congo peafowl is probably endangered because of habitat destruction, its small population size, and hunting. But right now this bird has been placed in the “vulnerable” category until more is known about it.

http://www.arkive.org/congo-peafowl/afropavo-congensis/image-G20705.html

RESOURCE SHEET- For student botanist (Need one copy of this sheet)

AFRICAN APPLE TREE (Scientific name- Mammea Africana)

The African apple tree is a reasonably common large forest tree which has a height of about 40 meters (or 131 feet) and a trunk diameter of 1 meter (or 3.28 feet). It grows well in rich forest soils, where it is moist, but it will also grow in clay and sandy soils. Its glossy, oblong leaves are copper-red when they first come out, but they turn to a dark green when they mature.

In the Democratic Republic of Congo, where the bonobos live, this tree bears a lot of fruit from March to June. Its fruit is large and round and is about 10 – 12 centimeters (or 4 to 4.7 inches) in diameter. The outside of the fruit is light brown in color and is rough and leathery. It is the white/yellow inside, soft part that is eaten. This part surrounds one to two large seeds. The soft, inside part of the fruit has a sweet flavor, although certain ones may taste sour. The bonobos enjoy eating this soft part of the fruit of this tree.

The wood of the African apple tree is used for furniture, construction, carpentry work, and railway sleepers. A medicine is made from its sap (watery fluid in the tree) and a lotion from its roots to be used on skin diseases. Bark shavings are also used to rub over skin problems in humans and dogs, to help relieve rheumatic pains, and to clear ulcers.

The African apple tree seems fairly common in the forests. These trees do not appear to be in any danger at the present time.

http://www.bsmarkham.com/mission/Africa/May%2005/flowers.html

RESOURCE SHEET- For student botanist (Need one copy of this sheet)

AFRICAN BREADFRUIT TREE (Scientific name- Treculia Africana)

The African Breadfruit tree is an evergreen fruit tree usually found near streams or in swampy areas of the forests in tropical Africa.

This tree is 10-30 meters (33-98 feet) in height and 3 meters (or 10 feet) around with a dense spreading crown and a fluted trunk. The bark is grey, smooth, and thick. Its leaves are very large and dark green with pointed tips and short stems.

The African Breadfruit tree is a fast-growing tree. It starts producing fruit after 4 years.

The fruit of this tree is rounded, very large (40 cm or 15.75 inches), and contains many orange seeds in the spongy interior of the fruit. It has a high protein value which makes it important in the diet of animals and people.

The local people grind the seeds into a powder, known as breadfruit flour, which they then use to create a number of different kinds of baked foods, including a type of bread. This flour can also be made into baby food.

Bonobos get 93% of their fruit diet from this tree. Ripe fruit is available in December, but it may continue on the tree until July.

The wood of the African Breadfruit tree is used for timber, furniture, and papermaking.

The local people also make medicines from different parts of the tree. This tree is not endangered at this time.

http://www.sunshine-seeds.de/Treculia-africana-45120p.html

35 Bonobos and their habitat by Alice Hare

RESOURCE SHEET- For student botanist (Need one copy of this sheet)

BITTER KOLA TREE (Scientific name- Garcinia kola)

The bitter kola tree is a well branched, evergreen, medium-sized tree that reaches about 12 meters (or 39 feet) in twelve years. It grows in subtropical or tropical moist lowland forests and produces fruit each year. It is believed that bonobos eat the fruit of this tree.

This tree is valued for its seeds that are made into medicines. These medicines are used in the treatment of bronchitis and throat infections. They are used to prevent and relieve colic, cure head and chest colds, and help relieve coughing. The plant is used in the treatment of liver disorders. In lab tests it has even been shown to slow down the multiplication of the virus that causes the deadly Ebola disease. Also, the seeds have proved effective against some strains of flu.

The wood of the bitter kola tree makes an excellent fire. It is also an ideal tree to use for shade around a house because of its thick, rounded crown (the highest part of a tree). Its branches are used as chewing sticks, because, even though they have a bitter taste, they have antibacterial properties.

Due to the heavy demand for these trees, they have been cut down more rapidly than they can reproduce and grow again. The bitter kola tree is now given the status of "vulnerable". If these trees continue to be cut at the high rate of the present time, very soon they will have to be placed on the endangered species list.

http://www.arkive.org/bitter-kola/garcinia-kola/

RESOURCE SHEET- For student botanist (Need one copy of this sheet)

JUNGLESOP TREE (Scientific name- *Anonidium Mannii*)

The Junglesop tree is a fast growing tree that can reach 15 meters (or 50 feet), but it is often much smaller. It is an understory (the layer between the top layer of the forest and the ground cover) tree that likes rich, moist soil.

The tree is mainly used for its fruit to eat and for its wood which is worked in various ways. Bonobos like to eat this fruit, as well as the local people.

The fruit of this tree is typically about 38 centimeters (or 15 inches) long and can weigh as much as 10 – 15 kilograms (or 22 - 33 pounds). The inside part is yellow to orange, and it has a very rich flavor which ranges in taste from sweet to sour, depending upon its ripeness. It is described as tasting something like a mango fruit.

The junglesop tree has large leaves which make this tree easily damaged by the wind. It also has large flowers which are 2.5 to 5 centimeters (or 1 to 2 inches) in diameter.

These trees seem to bounce back well from both drought and cold. They are plentiful and seem to be in no danger at the present time.

http://users.telenet.be/cr28796/AnonMann2.JPG

37 Bonobos and their habitat by Alice Hare

RESOURCE SHEET- For student botanist (Need one copy of this sheet)

OKOUME TREE (Scientific name- *Aucoumea klaineana*)

The Okoume tree is a medium-sized tree with a height of 30 to 40 meters (or 98 to 131 feet) and a trunk diameter of 1 to 2.5 meters (or 3 to 8 feet). It grows in small groups with its roots around those of neighboring trees.

Although this tree does not have a strong wood, it does not rot easily and has an attractive appearance. It is used for such things as cigar boxes and audio equipment and to decorate furniture. When made into plywood (a material made of thin sheets of wood glued and pressed together), it is used in airplanes, boats, and kayaks because of its light weight. It is also used in guitars because of the sound it produces, as well as its light weight.

The Okoume tree is classified in the vulnerable category. If these trees continue to be cut at the high rate of the present time, very soon they will have to be placed on the endangered species list.

http://aildoux.tripod.com/Aucoumea_klaineana_Gabonaise.jpg

38 Bonobos and their habitat by Alice Hare

RESOURCE SHEET – For student botanist (Need one copy of this sheet)

SAPELE TREE (Scientific name- *Entandrophragma cylindricum*)

The tall, straight sapele tree is a member of the mahogany family and is very valuable for its timber (wood). The wood on the outside of the tree is white to light rosy-red, while the inner part is a fairly dark, reddish or purplish brown color. This tree makes up over 70% of the timber cut in the northern Congo.

The sapele tree is a long-lived and slow-growing tree that provides habitat (homes) for a number of rare monkeys. In the summer the tree is host to a type of caterpillar that local people collect and eat as an important source of protein. The tree reaches a height of 45 to 60 meters (or 148 to 197 feet) with a trunk diameter of up to 2 meters (or 6.5 feet).

The bark of the sapele tree is used as medicine to treat headaches, eye infections, and swollen feet. The trunk of this tree is used for dug-out canoes and as the central roof support in homes.

Sapele trees mainly grow in tropical evergreen and semi-deciduous forests, but they can be found in drier habitats also. (Deciduous trees have leaves that fall off after a period of growth.)

These sapele trees are now placed in the status called “vulnerable”. If trees continue to be cut at the high rates of the present time, very soon these trees will have to be placed in the endangered species category. Cutting down too many of these trees destroys necessary habitat for many species and denies the local people an important source of protein from the caterpillars that live there. These people also lose the much needed money that they can make from selling these caterpillars.

http://www.arkive.org/sapele/entandrophragma-cylindricum/image-G28463.html

http://en.wikipedia.org/wiki/Sapele

39 Bonobos and their habitat by Alice Hare

RESOURCE SHEET- For student botanist (Need one copy of this sheet.)

AFRICAN TEAK TREE (Scientific name- *Pericopsis elata*)

The African Teak tree grows to a maximum height of 50 meters (or 164 feet). The diameter of its trunk can be up to 2 meters (or 6.5 feet).

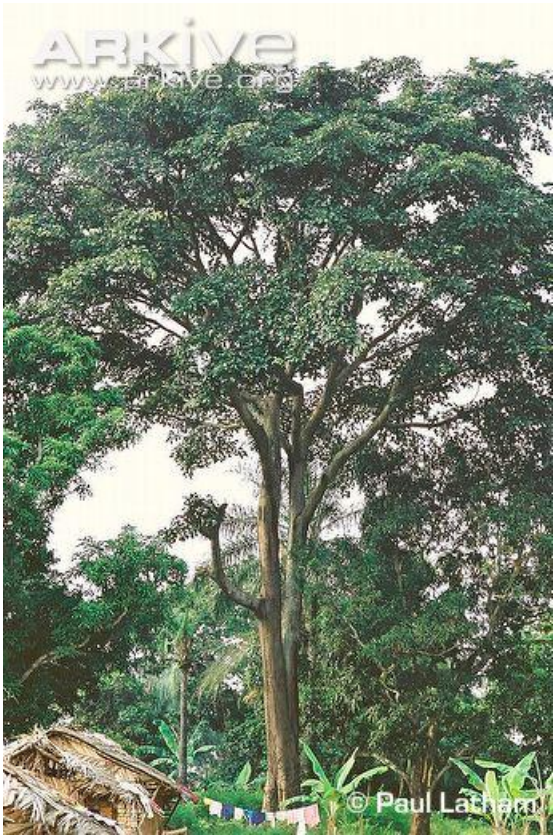
This tree has brown, green, or yellow-green bark. The trunk is clear of leaves for the first 25 to 30 meters (or 82 to98 feet).

The African Teak tree is found only in dry areas of semi-deciduous forest. (Deciduous trees have leaves that fall off after a period of growth.)

The wood of this tree is used for such things as building boats, flooring, and veneers (furniture decorations).

The African Teak tree is an endangered species. Illegal logging (cutting down trees without permission in order to sell them for lumber for building purposes) continues to be a threat to this type of tree.

http://www.arkive.org/african-teak/pericopsis-elata/



RESOURCE SHEET- For student entomologist (Need one copy of this sheet)

GIANT AFRICAN MILLIPEDE (Scientific name - *Archispirostreptus gigas*)

The Giant African Millipede can be found in moist debris and rotting wood in tropical and sub-tropical Africa, including the Congo where the bonobo lives.

This species is one of the largest millipedes in the world, growing up to 28 cm (or 11.2 inches) long. They can grow as thick around as your thumb.

This millipede has a hard cover that is black in color. Males and females look alike. They have 2 antennae, 2 compound eyes, and 2 pairs of legs (4 legs) per body segment, except for their head and tail segment. They usually have 30 to 40 segments, but they can have more. They do not have a thousand legs like their name may suggest. They only have about a hundred to two hundred legs.

The Giant African Millipede is a nocturnal (active at night) animal. It lives mostly on top of the ground, but it will burrow into the ground to some extent.

Giant millipedes eat rotting plant material.

This animal, if threatened, rolls itself into a ball. Barbs (sharp points) coming out of its body help to discourage anything that wants to eat it. Also, it may give off a liquid from glands on each side of each segment that may be dangerous to the eyes and mouth of its attacker. Millipedes do not bite.

The female lays fertilized eggs in tiny holes in the ground. At first the babies are white and have only a few segments and 3 pairs of legs. The young darken in color and add segments and legs as they grow.

These millipedes are very beneficial to their environment, because they help to recycle rotting plants. This species lives for 5 to 7 years. It is not endangered.

http://en.wikipedia.org/wiki/Archispirostreptus_gigas

41 Bonobos and their habitat by Alice Hare

RESOURCE SHEET- for student entomologist (Need one copy of this sheet)

ANOPHELES MOSQUITO (Scientific genus - *Anopheles*)

The Anopheles Mosquito lives in Asia, Brazil, and Africa, including the Congo where the bonobos live.

This mosquito is a small, black insect with 6 legs, 2 antennae, and 2 wings.

Only the bite of the female Anopheles Mosquito can cause the dreaded disease called malaria. This mosquito uses its proboscis to enter the victim's skin. The saliva that is released in this bite is where the deadly germs that cause the disease are to be found. The germs travel through the bloodstream and attack and kill liver cells and blood cells. The symptoms of malaria include fever, vomiting, headaches, and fatigue. The victim's temperature goes up and down for several days. When the person's temperature is high, he/she experiences a lot of sweating.

The female of this species lays her eggs in still water in lakes and swamps. The eggs are bunched together and have air chambers to keep them afloat. They can lay up to 400 eggs, if the female mosquito has just bitten something and gotten a blood meal. The eggs will hatch in about 24 to 72 hours.

These mosquitoes find their victims by following the trail of carbon dioxide that the victim has breathed out. The female is the only one to bite, because the proboscis of the male is not strong enough to puncture the skin.

Before you go into an area of the world where the Anopheles Mosquito lives, you should take special anti-malarial drugs. In some cases, however, you can still get the disease. There is no cure for malaria, although you can relieve the symptoms with several different medicines. This is an especially dangerous disease, because the malaria parasites stay in your body forever, and symptoms can reoccur from time to time. If you do not get treatment in time, you can become unconscious, or, in some cases, die. We hope that one day there will be a cure or a vaccine for malaria.

The Anopheles Mosquito exists in large numbers in certain areas of the world, including most of Africa.

http://www.medicinenet.com/malaria/article.htm

42 Bonobos and their habitat by Alice Hare

RESOURCE SHEET- For student entomologist (Need one copy of this sheet)

AFRICAN MOUND BUILDING TERMITE (Scientific name – Macrotermes bellicosus)

The African Mound Building Termite is an important part of the African ecosystem, including the Congo where the bonobos live. By eating wood and dry plant matter, they speed up the rotting process and help to keep the soil fertile.

The mounds that this termite lives in sometimes have a diameter of 30 meters (or over 10 feet) and can be up to twice that tall.

This species lives in colonies. They have a highly structured social system which includes workers, soldiers, and reproductives. The smallest in size, but the largest in number, are the workers. They are blind, wingless, and sexually immature. Their job is to feed and groom the other groups. They also dig tunnels, locate food and water, and build and repair the nest. The soldiers are the second group. Their job is to defend the colony from any unwanted animals. They are larger than the workers. The third group is the reproductives. They include the king and queen. They are the largest ants in the colony. The king fertilizes the queen's eggs. This highly evolved social system has allowed this ant to survive for millions of years.

The enemies of these ants include the aardvark, certain anteaters, and the pangolins. Also driver ants will invade the mound, if the opportunity presents itself.

If this species lives close to people, it may be considered a major pest because it can destroy corn and millet crops.

During swarming season the young females and males that are leaving the nest to make new colonies become food for bats, birds, reptiles, and amphibians.

The African Mound Building Termites are not an endangered or threatened species.

http://www.exchangedlife.com/Creation/african_macroterm.htm

RESOURCE SHEET- For student entomologist (Need one copy of this sheet)

ARMY ANTS (Scientific name - *Eciton burchelli*)

One of the places in which the Army Ants are found is the area of the Congo in which the bonobos live. These ants are fascinating because they migrate to find more food, eat every animal in their path, and raid the colonies of other ants and capture slaves.

The body of an Army Ant is brown and has six legs. It has a head with 2 antennae, a thorax, and an abdomen. Unlike other ants which have compound eyes, Army Ants have single eyes. But they are still blind. They use their antennae to sense, smell, and touch. This tells them the colony and nest to which they belong. They also use their antennae to communicate.

Army Ant colonies are made up of the queen, her eggs, soldiers, and workers. The queen lays 30,000 eggs each day. The large soldiers defend the colony. The medium size workers find the food, and the smallest workers tend the queen's eggs.

Because the colonies of this ant are so large, they must move from place to place to find food. The nests that they make are temporary. The nest is actually made up of the Army Ants themselves. They fasten on to each other using their jaws and claws to form walls to enclose the queen and her eggs. These nests hang from a log or another surface. Prey can be brought inside these nests.

When these ants are on the move looking for food, they march at night and stop to make camp during the day. These marches last for about 17 days at a time. When their need for food decreases, then the colony will stay in one place for a time.

Army ants can sting, kill, and eat up to 100,000 animals in a day. Their diet includes lizards, snakes, chickens, pigs, goats, scorpions, and other animals. They may also climb trees and eat birds and other insects that live there. Army Ants can only swallow liquids. The solid part of their prey they roll into balls and spit them out.

Army Ants are not in danger of extinction.

http://www.arkive.org/army-ant/eciton-burchellii/image-G68537.html

RESOURCE SHEET- For student entomologist (Need one copy of this sheet)

HONEY BEE (Scientific name – *Apis mellifera*)

The honey bee is found all over the world, including the Congo where the Bonobos live.

The species in the Congo is red/brown with black bands and orange yellow rings on its abdomen. They have some hair on their bodies. They have six legs which are mostly dark brown/black. They also have a basket used for collecting pollen on their hind legs. They have wings and a stinger on their back end that is supplied with venom from glands in the abdomen. They sting to protect themselves or their hives.

There are two types of females, the smaller, sterile workers (10 to 15 mm long or .3 to .6 inches) and the larger fertile queens (18 to 20 mm long or .7 to .8 inches). The males are called drones and are 15 to 17 mm long or .6 to .7 inches. Adult workers will live for 2-4 weeks in the summer, or for as long as 11 months, if they live through the winter; queens about 2 to 5 years. Males only survive for 4 to 8 weeks.

These bees put out a waxy substance from their bodies from which the hive is built. The queens then lay their eggs in the cells of the wax. There are 60,000 to 80,000 eggs per season. These eggs hatch in 28 to 144 hours, depending upon the temperature of the hive. Worker bees take 21 days to reach maturity, queens about 16 days, and the male drones 24 days.

Colonies swarm once or twice a year for mating purposes. This usually happens at the beginning of the season that provides the most nectar. The new queens and their swarms find a suitable location for a new hive. They move into the space and start the whole process of hive building, food production, and reproduction all over again. The old queen has left with a swarm to found a new colony. If any new queens are left in the old hive, they try to sting and kill each other until all but one is dead. That surviving queen then starts laying eggs.

Honeybees communicate with chemical signals. They use these signals to pass information to each other, to help others locate the same patch of flowers from which they are returning, and to signal danger. They can also communicate by “dancing”, where they move in such a way that they can tell others the direction and distance to the food.

These bees feed on pollen and nectar collected from blooming flowers. They also eat the stored, concentrated nectar in the hive that we call “honey”. Honeybees search for flowers during daylight hours. They will steal from other hives, if they get an opportunity.

In Africa honeybees are likely to be attacked by birds called “honeyguides”. These birds eat the hive comb, wax, stored honey, and the bees themselves. One species of this bird guides predators to hives, and then feeds there after the mammal has opened up the hive.

Honeybees are very important because they pollinate plants and help them reproduce. They provide honey, wax, pollen, and other substances that are sold for food, medicine, and cosmetics.

45 Bonobos and their habitat by Alice Hare

These honey bees are not endangered.

http://www.arkive.org/honey-bee/apis-mellifera/

46 Bonobos and their habitat by Alice Hare

RESOURCE SHEET- For student entomologist (Need one copy of this sheet)

AFRICAN CONEHEADED LONG-HORNED GRASSHOPPER (Scientific name – *Tettigonai viridissima*)

The African Coneheaded Long-horned Grasshopper lives from South West Africa to South and East Africa, including the Congo forests where the bonobos live.

This grasshopper is a lime green color with six legs, 2 long antennae, and two pairs of wings that are held overlapping the abdomen when the insect is resting.

This species is known for flying in dense swarms (large crowds). This happens, however, only in seasons with favorable conditions for feeding. During these swarms, many local people collect these insects and eat them as a snack or make them into a sauce for the main meal. Other local people gather them to sell, and they bring about the same price as our beef or chicken meat. The Coneheaded Grasshopper is also eaten by numerous other animals in the wild, so it is important to the food chain in the Congo.

The switch from the swarming to the non-swarming stage is triggered by the change from wet weather to dry weather in January and June. Acoustic (sound) communications join the adults into swarms during the rainy season.

This grasshopper eats plant matter and can be a pest to some cereal crops like corn, rice, and millet, because it eats the crop before it can be pollinated and can reproduce. Farmers make every effort to keep the swarms away from their crops, they are not always successful.

The Coneheaded Grasshopper lives in bushes. It is active at night and is attracted to light.

The females of this species lay up to 72 eggs at a time. The adults live about one year.

Adults of this species frequently crawl head down in bunches of grass with only their wings and extended long hind legs visible. They are mimicking the grass blades as a type of camouflage (disguise).

The African Coneheaded Long-horned Grasshopper is in no danger of extinction at the present time.

http://www.newworldencyclopedia.org/entry/Tettigoniidae

RESOURCE SHEET- For student herpetologist (Need one copy of this sheet.)

SERRATED HINGE-BACK TORTOISE (Scientific name – *Kinixys erosa*)

The serrated hinge-back tortoise lives in the forests of central Africa, including the areas of the Congo where the bonobos live. It prefers shady areas and can be found under logs, in holes, or in piles of leaves.

The length of this tortoise is up to 37.5 cm (or 14.8 inches). The shell of this animal is reddish-brown and yellow. The scales at the rear of the shell have upturned edges which look serrated (saw toothed edges), and this is how these tortoises get their name. The tail has a small, claw-like projection at its tip. The tail of the male is longer and thicker than the female.

Hinge-backed tortoises have the amazing ability to shut themselves entirely within their shells. This is because of a hinge at the back of the shell that can close to protect the tortoise's hind legs and tail. When danger threatens, the hinge-back defends itself by withdrawing its limbs and head and closing its shell.

These tortoises feed on fungi, fruits, plant matter, invertebrates (like insects), and even the meat of dead animals. Females lay several batches of four eggs on the ground and cover them with leaves.

In some areas this tortoise is hunted to be eaten by the local people. In other areas it is worshipped by local communities who believe that it brings happiness and is a symbol of peace and a sign of lots of children. There is not enough information about the serrated hinge-back tortoise in the wild to know if it is endangered. The general feeling, however, is that this animal is not in any danger at the present time.

http://www.arkive.org/serrated-hinge-back-tortoise/kinixys-erosa/image-G28151.html

RESOURCE SHEET- For student herpetologist (Need one copy of this sheet.)

CRESTED CHAMELEON (Scientific name – *Chamaeleo critatus*)

The Crested Chameleon lives in dense forest undergrowth, usually in low-growing shrubs. It is found in a number of African countries, including the Congo where the bonobos live.

The length of this chameleon is 28 cm (or 11 inches) for the females and 25 cm (or 9.8 inches) for the males. This species has a high, fanlike crest running along the top center of its body which makes it easy to recognize. The male's crest is noticeably taller than that of the female.

The crested chameleon's head at the back has a boney, lifted area (a crest) formed from ridges that run along either side of the head. When fighting to defend his territory, these ridges on the head of the male brighten to a vivid blue. Like other chameleons this species has the ability to change the color of its body. Females usually choose green shades, and males most often appear to be grey, brown, or tan. But both sexes can change into a range of colors, including maroon (a dark red-purple shade).

Since the crested chameleon lives on or near the forest floor, it has a short tail in comparison to its body. (The tree climbing chameleons are the ones that need the long, grasping tails for climbing). Since its body temperature is whatever the outside temperature is, the chameleon becomes increasingly energetic as the temperature rises. It moves slowly along branches on special toes that provide a strong grip on the limb.

The crested chameleon mainly feeds on insects such as grasshoppers and locusts. It has special tongue muscles that allow it to rapidly shoot out its sticky, mucous coated tongue to catch its prey. Between the end of the wet season and the beginning of the dry season the female lays a group of between 11 and 14 eggs.

The crested chameleon is a threatened species due to the high number of forests that are being cut down in many parts of its territory. The species is also collected to be sold as pets or to be used to make traditional medicines.

http://www.arkive.org/crested-chameleon/trioceros-cristatus/

RESOURCE SHEET- For student herpetologist (Need one copy of this sheet.)

WHITE-SNOUTED REED FROG (Scientific name – *Hyperolius frontalis*)

The White-snouted Reed Frog can only be found in Uganda and in the Congo where the bonobos live. In the breeding season they can be found near water. At other times of the year, we do not know exactly where in the forest they live.

The males of this species are 25 to 29 cm (or 9.8 to 11.4 inches).

This reed frog has a distinctive light gold triangle on its snout (nose). The rest of its body is a bright green with some small spots on its smooth back.

This species has large toe pads and long legs that allow it to be a good climber.

The call of this reed frog is a short, hard buzzing that is repeated two to three times.

The females lay about 24 light green eggs in a clear jelly. They are deposited on plant matter over the water.

It is believed that the population of the White-snouted Reed Frog is declining due to the destruction of its habitat. Trees are being cut for wood; land is being cleared for farming; and humans are increasingly building homes in their territory. These frogs are, however, being protected in two national parks.

http://www.arkive.org/white-snouted-reed-frog/hyperolius-frontalis/

50 Bonobos and their habitat by Alice Hare

RESOURCE SHEET- For student herpetologist (Need one copy of this sheet.)

AFRICAN SLENDER-SNOUTED CROCODILE (Scientific name - *Mecistops cataphractus*)

The African Slender-snouted Crocodile is found in Central and West Africa, including the areas in which the bonobos live. It inhabits marshes, rivers, lakes, and pools within the rainforests. As far as we know, it only lives in fresh water and prefers large, fast-moving streams.

The length of this crocodile is up to 4 meters (or about 13 feet). It is a rather shy and timid reptile. This crocodile is known for its extremely thin snout, which does not have any bony ridges. About six rows of tough scales run down its back, which are used for protection.

The leathery skin of the adult crocodile is brownish-yellow with large black spots. The head is olive green colored and is spotted with brown. Young crocodiles of this species are greenish-grey to greenish-yellow in color with black markings.

This species is the only one known to climb as high as several meters (or 10 or so feet) into the limbs of trees that have fallen into the streams. The slender-snouted crocodile prefers fish, but it also eats frogs, snakes, shrimp, crabs, water birds and even some mammals. Beginning in March the female builds a nest from plant material that is up to 80 cm (or about three feet) high and 2 meters (or about 7 feet) wide. It is located in a shady spot a few meters (or about 10 feet) from a rainforest stream.

The female lays between 12 and 30 large, hard-shelled, oval shaped eggs in two layers in the mound. At the beginning of the rainy season and after 90 to 100 days in the nest, young crocodiles begin to hatch from the eggs. When the female crocodile hears their chirps, she breaks open the nest; and the babies scatter over the flooded rainforest floor. The mother defends her young, when they give a distress call; but we do not know how long the mother continues to do this.

The African Slender-snouted Crocodile is one of the least understood of the world's crocodiles. We do not know how many there are left in the wild. Some data suggests that their populations are declining due to people hunting them for their skins and for food and because of habitat destruction. They are also caught in fishing nets, when they try to eat the fish thrashing in the nets.

http://www.arkive.org/african-slender-snouted-crocodile/mecistops-cataphractus/image-G28569.html

RESOURCE SHEET- For student herpetologist (Need one copy of this sheet.)

AFRICAN ROCK PYTHON (scientific name – *Python sebae*)

The African Rock Python lives across central and western Africa, including the areas where the bonobos live. It can survive in a wide range of habitats, but it is often found around areas with permanent water.

This python is Africa's largest snake. It grows up to 7.5 meters (about 25 feet).

This snake's head is triangular and is marked on top with a dark brown "spear-head" outlined in a dull yellow. The head has many sharp, backwardly curved teeth.

The African Rock Python has a long, stout body patterned with markings that vary in color between brown, chestnut, olive, and a dull yellow. These colors often join up in a broad, irregular stripe. The scales on the body are small and smooth. The scales around the lips possess heat-sensitive pits, which can find warm-blooded prey even in the dark.

Pythons are not poisonous. They grip, coil around it, and then squeeze their prey until it stops breathing. Death is believed to be caused by the heart ceasing to function.

This python eats large rodents, monkeys, antelopes, fruit bats, monitor lizards, and even crocodiles in forest areas.

The female of this species lays between 20 and 100 hard-shelled, elongated eggs in an old animal burrow, termite mound, or cave. The female protects the eggs until they hatch around 90 days later.

The African Rock Python is still relatively common in many regions across Africa, even though some of its territories are known to be under threat due to habitat destruction and oil exploration activities. In some areas it is hunted for food and leather. It is sometimes collected for the pet trade, but it is not recommended for that use because of its size and unpredictable temperament.

http://www.arkive.org/african-rock-python/python-sebae/

52 Bonobos and their habitat by Alice Hare

RESOURCE SHEET- For student herpetologist (Need one copy of this sheet.)

AFRICAN BURROWING PYTHON (Scientific name - *Calabaria reinhardtii*)

The African Burrowing Python is widespread across western tropical Africa, including the areas of the Congo in which the bonobos live. This python has a length up to 1 meter (or just over 3 feet).

No other python in the world has the body shape of the African Burrowing Python. Its body, head, and tail are circular and are almost the same size. The head looks so much like the tail that it is hard to tell which end of the snake is the front and which end is the back. What makes it even more confusing is that there are white bands on the underside of both the tail and the head.

This snake's body is brown with lighter red, orange, and yellow spots. The head and tail are darker, and the belly is grey or brown. The eyes are very small and the same color as the scales around the eye. The mouth is small and hard to see. It does not have the heat-sensitive pits like the other pythons. The scales are glossy and smooth, and there is one that is bigger on the tip of the nose to aid in digging.

This python is shy and hard to find, since it spends so much of its time under the ground. It burrows into decaying leaves and soil on the forest floor, and it sometimes inhabits the burrows of small mammals. At times it can be found climbing among small bushes or fallen branches or resting inside termite's nests.

This snake has a small mouth, and it is thought to eat mainly the young of small mammals that are still in their nests, for example, baby mice.

When this python feels it is in danger, it rolls up into a ball with its head protected in the middle of the coil. Then the tail may be lifted and moved about so that it looks like the head. This keeps whatever is threatening it from attacking the python's real head.

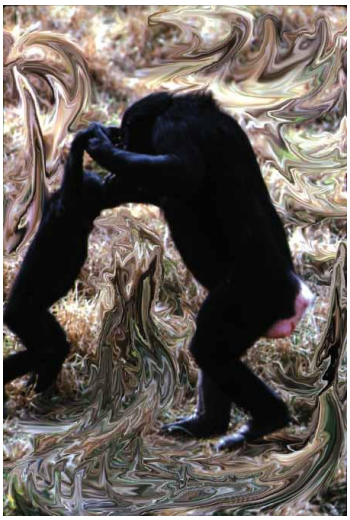
Female pythons of this species lay between one and five large, elongated eggs at the end of the dry season. The mother does not coil herself around these eggs as females of other python species do.

We have very little information about the threats faced by the African Burrowing Pythons. Currently they are not considered at risk for extinction.

http://www.arkive.org/african-burrowing-python/calabaria-reinhardti-

Supplemental: Folklore of the Bonobo

FROM: www.bonobo.org



Bonobos have been cherished, revered, and even feared by indigenous people of the Congo Basin, who recognize the apes as relatives from our distant past. Handed down generation to generation through the oral tradition, legends about bonobos have perpetuated traditional taboos against hunting these uncommon apes.

This work is inspired by the pioneering research of Dr. Takayoshi Kano from Kyoto University, Japan. The beliefs of the Mongandu people of Congo, as expressed in these folk tales, were fundamental to Kano's choice of Wamba as a long-term study site. There, people respect and protect bonobos as kin.

Here are a few of the Mongandu tales, which are usually sung by the people of Wamba. Stay tuned for more bonobo stories and songs, coming soon!

Why Bonobo Lives in the Forest

A long time ago, bonobo and people lived together in the village. They worked and played together. The bonobo was no different from the people. Back then, everybody was naked.

One day a lifeke (Raphia palm) came to the village. As a charm, it knitted a bekuwa (cloth) from its own husk. The village elders were very happy and gave everyone in the village a small piece of the cloth. At this time, the bonobo was away in the forest. When he returned, the village had changed. All the men and women covered their front side with the cloth. Now, just the bonobo walked around as he was created (naked).

He ran to the village elder and said "Give me a bekuwa too!"

"Are you a bonobo?" he asked. "Where have you been?"

"I was in the forest," the bonobo replied. The elder shook his head and said, "We entirely forgot about you. The cloth has all been divided among the people and there isn't a piece left."

"Alright then," said the bonobo, "I'll be naked like all the animals." Then it shouted, "I wouldn't live naked in the village even if I died! I'll go into the forest and eat fruit and sprouts and will never come back to the village again."

—Transcribed by Takayoshi Kano, from Fire of Elia

"Bonobo's Fire"

As the bonobo said, he went to the forest and never came back. When the bonobo went into the forest he took a nest of white ants, which an elder was using as a heating stone in his room. Because the nest looked very red beside the fire, the bonobo thought it was the fire itself.

In the forest the bonobo was probably thinking about using the "fire" for many things. But the "fire" it brought to the forest never burned. Even now the bonobo gathers some nests of white ants, piles them up and smashes them like making a fire. That's why people call it "Bonobo's fire."

—Transcribed by Takayoshi Kano, from Fire of Elia

How Man Came to Eat Beya, Bekau, Bolingo, Batohe, and Basenda

Man did not know that beya, bekau, bolingo, batohe, and basenda can be eaten as food. One day the man made a long journey into the forest. He finished all his food and did not have anything to eat. He was so tired that he fell down, weak from hunger. A bonobo found him lying down on the ground and thinking that the man was ill, the bonobo wanted to help him. The bonobo consulted the man and found that he wasn't really ill. His problem was only that he was hungry.

At this time, the bonobo gathered his uncooked food, including beya, bekau, bolingo, batohe, and basenda and gave them to the man. Thus, the man ate bonobo's food for the first time. And he was well satisfied with this food.

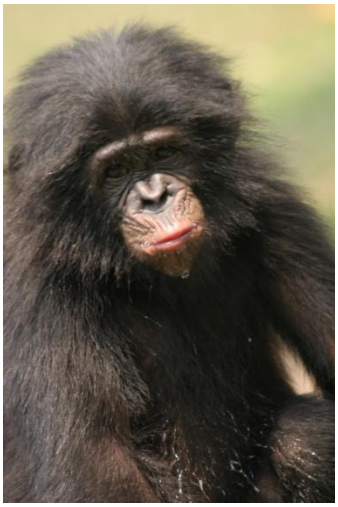
When he came back to the village, he tried to cook beya and bekau, and found also that beya and bekau can be eaten after cooking.

Today, man is still eating beya, bekau, bolingo, batohe, and basenda.

EXTENSION ACTIVITY: Bonobo Biographies

Have each student create a story book for children using these biographies of real bonobos that live at the Lola Ya Bonobo Sanctuary in the Democratic Republic of the Congo. They can also use the actual pictures of these animals that are included in this material.

Kata



Kata arrived at the sanctuary in September 2007. She arrived in a wooden box. She was so scared. She was skinny from not having enough food. She has a permanent scar around her waist from where the poachers tethered her. She was found by a man in a town called Lodja. After she arrived at the sanctuary, Lomela became her friend. They ate together, slept together and played together. Kata was so sad that she didn't want to drink any milk, and she became very sick. But after Lomela played with her for a few weeks, Kata decided she wanted to get well and she drank and drank milk and ate lots of food until she was better. Now Kata and Lomela are still friends. But Kata has a terrible temper! If she doesn't get what she wants, she'll scream and cry until someone gives it to her. The rest of the time she is a sweet loving bonobo and loves lots of hugs from her substitute mother, Michelin.

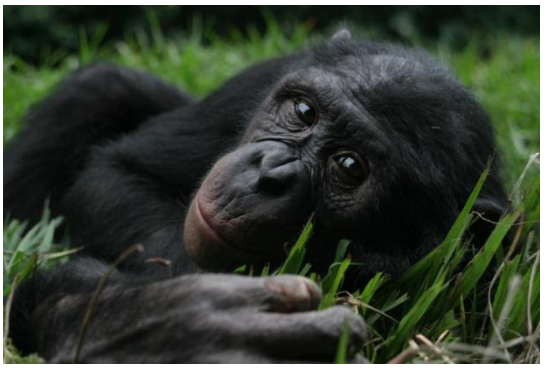
Lomela

Lomela also arrived from Lodja, and when Kata and Lomela cry out to each other, some people say they are catching up on gossip from their hometown. Lomela was so sick when she arrived at the sanctuary that all her hair fell out, and she was completely naked! But one thing Lomela loved to do was eat! She ate and ate all day long. She could eat 6 bananas, 4 mangoes, 3 oranges, 2 sugar canes, and a big piece of papaya and drink 3 bottles of milk. With all this good, healthy food, Lomela soon got better. Now she has lovely hair and is one of the most beautiful bonobos at Lola.

Kikwit

Kikwit is like a big teddy bear. He loves to hug. If Kikwit hugs you, he doesn't want to let go. He will hug you for hours and hours! Kikwit also loves to play ball games. He loves to hug and dribble soccer balls. Kikwit sometimes gets bullied by Tatanga, who doesn't like him very much. Once, Kikwit was so upset after Tatanga hit him that he saw his own reflection in the water, and he tried to smash it to smithereens. When Tatanga chases Kikwit, Mimi often protect him like his mother would. Kikwit is one of the strongest and most handsome bonobos. Kikwit loves to play tag with Noiki, and they often play all day together. He also likes to wrestle with all the other boy bonobos. But his favorite thing is to tickle the other bonobos, especially the new infants in the group.

Noiki



She loves to play in the water. She loves to smell flowers before she eats them. She is one of Mimi's best friends and helps Mimi protect others from bullies like Tatanga. She is one of the silliest bonobos. Sometimes she likes to play tricks on people and will take their things when they are not looking – like their camera bags when they are trying to take photos of the bonobos. She often climbs the palm trees and hangs on the giant palm fronds 30 meters (90 feet) up and swings back and forth like an acrobat! Then she drops to the ground and does flips as she falls. Noiki often grooms and hugs the new orphans when they first enter the group. She loves to play chase with her friends. They often play a game of tag. Noiki will poke her friend Kikwit and run and hide in a bush or climb a tree. Kikwit will try to find her, and if she is in a tree, he will chase her. If he catches her they will reverse roles, and Noiki will chase Kikwit. Noiki is also the smartest and bravest of the bonobos.

Momma Mimi

Mimi is the oldest bonobo. Mimi was born in the forest, but when her parents were killed, the bushmeat trader sold her as a pet. She was raised in a human child just like you. Her parents loved her very much and taught her how to live in a house. She learned to brush her teeth and wash her hands. She loved to drink tea, but most of all she loves cookies. Mimi was still sad, even though her parents loved her. She had no one to play with as she grew older. She wanted to have bonobo friends. Her human parents realized she needed to be in a place with other bonobos. Claudine, the person in charge of the sanctuary, convinced them to let Mimi live at Lola ya Bonobo, so that Mimi could live together with her own kind. Mimi has now lived at Lola ya Bonobo for many years, and she is the most dominant individual in the group. She is the boss! Even the big males who are much larger than Mimi in size listen to her. Nobody can boss Mimi around. Mimi has lots of friends in the group, and she likes everyone to be friends and to live peacefully. If someone tries to be a bully in the group, she and her friends chase them away and protect the bonobo that was being harassed. Even big Tatanga is afraid of Mimi and her friends!

Tatanga

Tatanga is the most beautiful of all the bonobos, and he is the very biggest male. Tatanga wants to be the boss of the whole group. He is more than 25% bigger than Mimi, the adult female who is the most dominant in the group. Tatanga tries to use his strength and his size to his advantage and scare the other bonobos. He wants them to give him all the attention, and sometimes he likes to take their food. Even though Tatanga is bigger and stronger than any one bonobo he cannot bully them, because the other bonobos always work together. Tatanga is not strong enough to scare all the other bonobos when they work together. Tatanga is also very mischievous and likes to jump out of the enclosure where the bonobos at the sanctuary live. He likes to go try to make friends with bonobos in the other groups and have an adventure in a new place. He is the bonobo explorer. The caretakers always think Tatanga will try to get out and bully the people, but he always just wants to jump out and play with the other bonobos. Tatanga also loves Claudine, the person in charge of the bonobo sanctuary. He will do anything for her. He loves when Claudine comes to groom him and especially likes to have his nails cleaned by her.

58 Bonobos and their habitat by Alice Hare

59 Bonobos and their habitat by Alice Hare

60 Bonobos and their habitat by Alice Hare

61 Bonobos and their habitat by Alice Hare

62 Bonobos and their habitat by Alice Hare

63 Bonobos and their habitat by Alice Hare

64 Bonobos and their habitat by Alice Hare

65 Bonobos and their habitat by Alice Hare

66 Bonobos and their habitat by Alice Hare

67 Bonobos and their habitat by Alice Hare

68 Bonobos and their habitat by Alice Hare

69 Bonobos and their habitat by Alice Hare

70 Bonobos and their habitat by Alice Hare

71 Bonobos and their habitat by Alice Hare

72 Bonobos and their habitat by Alice Hare

73 Bonobos and their habitat by Alice Hare

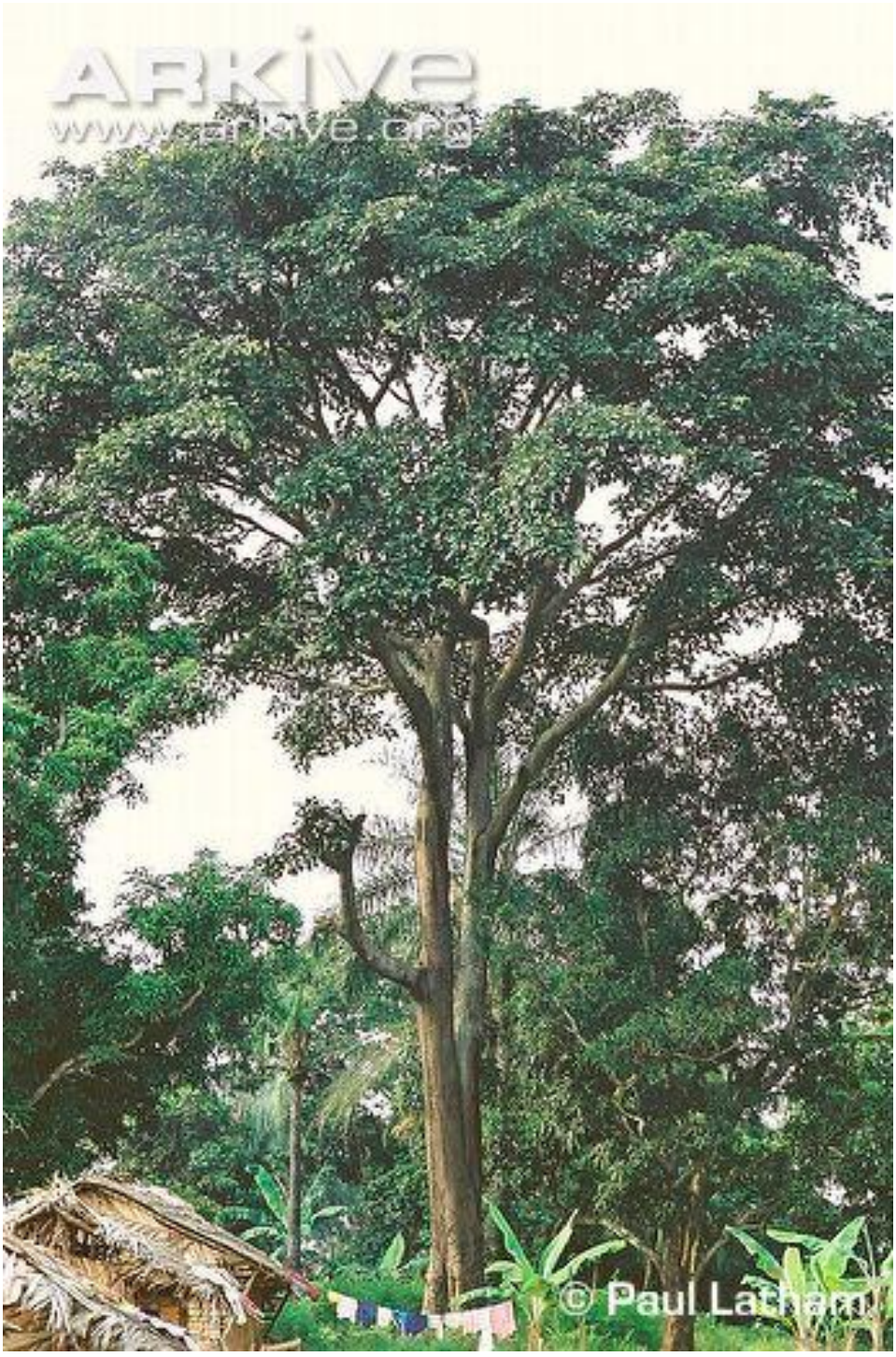
74 Bonobos and their habitat by Alice Hare

75 Bonobos and their habitat by Alice Hare

76 Bonobos and their habitat by Alice Hare

77 Bonobos and their habitat by Alice Hare

78 Bonobos and their habitat by Alice Hare



79 Bonobos and their habitat by Alice Hare

80 Bonobos and their habitat by Alice Hare

81 Bonobos and their habitat by Alice Hare

82 Bonobos and their habitat by Alice Hare

83 Bonobos and their habitat by Alice Hare

84 Bonobos and their habitat by Alice Hare

85 Bonobos and their habitat by Alice Hare

86 Bonobos and their habitat by Alice Hare

87 Bonobos and their habitat by Alice Hare

88 Bonobos and their habitat by Alice Hare

89 Bonobos and their habitat by Alice Hare

90 Bonobos and their habitat by Alice Hare